BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF MINNESOTA

Gregory Scott	**Chair**
Edward A. Garvey	**Commissioner**
Marshall Johnson	**Commissioner**
LeRoy Koppendrayer	**Commissioner**
Phyllis Reha	**Commissioner**

In the Matter of a Commission Investigation into Qwest's Compliance with Section 271(c)(2)(B) of the Telecommunications Act of 1996; Checklist Items 1, 2, 4, 5, 6, 11, 13 and 14	**PUC Docket No. P-421/CI-01-1371** **OAH Docket No. 7-2500-14486-2**

QWEST CORPORATION'S

AFFIDAVIT

OF

BARBARA J. BROHL

CHECKLIST ITEM 4 – PRE-ORDER LOOP QUALIFICATION

August 2, 2002

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AFFIDAVIT

OF

Barbara J. Brohl

Pre-Order Loop Qualification

I. INTRODUCTION

My name is Barbara J. Brohl. I am a Director of Legal Issues in the IT Systems Wholesale organization at Qwest Information Technologies, Inc. ("Qwest IT"), a unit of Qwest Corporation ("Qwest"). My business address is 930 15th St., 10th Floor, Denver, Colorado, 80202. My work experience, present responsibilities and educational background are contained in Exhibit BJB-LOOPQUAL-1, Professional Experience and Education. I submit this affidavit in support of Qwest's application for authority to provide interLATA services originating in Minnesota and as further evidence that Qwest provides non-discriminatory access to Operations Support Systems ("OSS") as it pertains to Loop Qualification requirements. I am adopting those portions of the Affidavit of Jean M. Liston that relate to pre-order loop qualification.

II. EXECUTIVE SUMMARY

The purpose of this affidavit is to provide detail describing the comprehensive loop qualification tools Qwest has made available to CLECs as well as to specifically respond to the affidavits filed by AT&T witness Kenneth L. Wilson and Covad witness Nancy Camarota. Both Mr. Wilson and Ms. Camarota raise issues regarding access to and quality of Qwest's Loop Qualification systems and processes. I will provide

evidence that demonstrates that Qwest's tools do indeed provide comprehensive and accurate loop make-up information needed by CLECs so that that they may determine if a particular loop can support the type of advanced service the CLEC seeks to offer, in conformance with the Act, the UNE Remand Order, and FCC Section 271 Orders.

My affidavit is organized in the following sections:

Section III describes the Loop Qualification Tools that Qwest provides through IMA-EDI and IMA-GUI which include 1) Qwest DSL for Resale, 2) Unbundled Loop Qualification and the 3) Raw Loop Data tool. Section IV will address the FCC requirements surrounding loop information obligations. In Section V, I will discuss why direct access to LFACS is not required, and demonstrate that Qwest's Loop Qualification Tools provide all loop qualification information required by the FCC. A discussion of pre-order MLT testing is in Section VI. This issue is also addressed in the Rebuttal Affidavit of Dennis Pappas. Section VII will address Ms Camarota's allegations regarding the Colorado xDSL FOC Trial. Section VIII discusses the CLECs' demand for permission to audit Qwest's loop qualification systems. Finally, in Section IX, I will describe what was tested in the Regional Oversight Committee ("ROC") Third Party OSS Test and the associated results.

As this affidavit will demonstrate, none of the claims raised by the CLECs in this proceeding affect Qwest's compliance with Section 271.

III. DESCRIPTION OF LOOP QUALIFICATION TOOLS

Qwest offers CLECs a variety of tools to investigate the availability of facilities and the make-up of loops. Specifically, Qwest provides access to the Loop

Qualification Tools[1] through IMA-EDI and IMA-GUI which include 1) Qwest DSL for Resale, 2) Unbundled ADSL Loop Qualification[2] and the 3) Raw Loop Data Tool (RLDT). In this section of the affidavit, I will provide additional detail about these tools and the information provided to CLECs when a query is performed.[3] The underlying data source for the wholesale and retail tools is the Loop Qualification Database (LQDB), which is fed by LFACS. At the end of this section, I will also describe the Manual Process that Qwest offers to provide loop make-up information in the event the tools return inconsistent, incomplete, or inaccurate information.

A. Qwest DSL for Resale

The Qwest DSL for Resale tool qualifies working loops by telephone number or address so that a CLEC can determine whether resale of Qwest DSL is available.[4] This

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[1] These tools contain information on more than 90% of Qwest's loops. The job aid that Qwest offers to CLECs to help them understand these tools is available at www.qwest.com/wholesale/training/coursecatalog.html. *See* Exhibit BJB-LOOPQUAL-2**,** Loop Qualification and Raw Loop Data CLEC Job Aid IMA 10.0 (CLEC Job Aid).

[2] The Qwest DSL for Resale and Unbundled ADSL tools have been combined into one in IMA 9.0, released in late February 2002. These tools are referred to collectively as the IMA Loop Qualification Tool.

[3] In addition to its loop qualification tools, Qwest provides CLECs with web access to the ICONN database. The ICONN database provides CLECs with information regarding the Qwest network such as: central office information and changes, NXX assignments, remote terminal deployment by state and wire center, and outside plant build information for funded loop construction jobs in excess of $100,000.

[4] Qwest offers CLECs an additional manual loop qualification capability, a bulk loop qualification, which provides CLECs the ability to request pre-qualification for a group of telephone numbers in advance of qualifying individual lines using the Qwest DSL for Resale qualification tool described above.

tool accesses the QCity/QServ interface, which is the same loop qualification tool used by Qwest's Retail representatives. In using this tool, the CLEC receives a "Yes" or "No" response to indicate if the customer's loop qualifies for Qwest DSL for Resale service.[5] If a "No" response is returned, a short explanation is provided indicating the reason, such as the presence of pair gain. The enhanced Qwest DSL for Resale tool also provides detailed loop make-up information behind the Loop Data tab.[6] With this tool, Qwest also provides the capability for a CLEC to request automatic re-qualification of the telephone number that received a "No" response on a periodic basis to determine if there has been a change in qualification status. If a loop becomes available at a later date, the CLEC is notified.

B. Unbundled ADSL Loop Qualification

The Unbundled ADSL Loop Qualification Tool is used to determine if loops that meet the technical requirements defined for the ADSL-compatible Loop product are available.

In the IMA 9.0 Release, which was deployed at the end of February 2002, Qwest substantially enhanced the Unbundled ADSL Loop Qualification Tool to return two levels of data to the CLEC. As described in the table below, the query returns a Loop

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5 *See* Exhibit BJB-LOOPQUAL-3, DSL for Resale Loop Qualification Screen Print.

6 *See* Exhibit BJB-LOOPQUAL-3, DSL for Resale Loop Qualification Screen Print.

Qualification Tab, which provides loop status,[7] a loop qualification message that contains some loop information,[8] and finally the loop product availability code to indicate which products are available. [9]

Loop Qualification Tab Detail

Field Label	Field Name	Description/Values
LOOPSTAT	Loop Status	A = Facilities Qualified B = Facilities Not Qualified E = Conditioning Required G = Not Qualified due to Pair Gain U = Undetermined If query is for Unbundled ADSL, one of the following codes is returned: A = Facilities Qualified B = Facilities Not Qualified
Loop Qual Message	Loop Qualification Message	Message returned to indicate that a product was or was not qualified and why.

[7] The loop status field indicates whether the facilities qualify or not, whether a construction job, a bona fide request, or conditioning is required, and if the loop is too long.

[8] The loop qualification message field returns: the telephone number or circuit ID (if the system is returning spare information it will contain a fictitious circuit ID); loop length; bridge tap length; the type of facility (copper or pair gain); the load type, if any; and the insertion loss calculated at 196 kilohertz frequency with 135 ohm terminations.

[9] *See* Exhibit BJB-LOOPQUAL-4, Unbundled ADSL Loop Qualification Tab Screen Print.

Field Label	Field Name	Description/Values
LPAC	Loop Product Availability Code	Identifies which products are available for resale based on loop length. QDSL (Qwest DSL) UADSL (Unbundled ADSL) Blank, Not Populated (EDI Only) = Loop Level Data

The second set of data provided is behind the Loop Data tab. This information is based upon version 5 of the Local Service Ordering Group ("LSOG") guidelines, and it details 12 different data points and descriptive values to assist the CLEC in qualifying loops. The table below shows the meaning of the 12 response field descriptors provided on the Loop Data tab in the IMA Loop Qualification tool.[10]

Loop Data Tab Detail

Field Label	Field Name	Description/Values
LST	Local Service Termination	Identifies the CLLI code of the end office switch
PGPRES	Pair Gain/DLC (Digital Loop Carrier) presence	A = Actual N = No Blank, Not Populated (EDI Only)
ELL	Equivalent Loop Length	Returned only if present. The 26- gauge equivalent loop length for the total

[10] *See* Exhibit BJB-LOOPQUAL-5, Unbundled ADSL Loop Data Tab Screen Print.

Field Label	Field Name	Description/Values
		distance from the end-user to the wire center in kilofeet.
RSUIND	Remote Switching Unit Indicator	If there is a unit, then the value is Y, otherwise, the field is blank
LLT	Loop Length Type	Identifies the process used to determine the loop length. A = Actual B = Estimated C = Electrical
LL	Loop Length	Loop measurement in kilofeet
LLG	Loop Length Gauge	Identifies the segment loop lengths by gauge
LCQ	Load Coil Quantity	Identifies the quantity of load coils present on the loop
LCT	Load Coil Type	Identifies the type of load coil present on the loop
BTQ	Bridge Tap Quantity	Identifies the quantity of bridge taps on the loop
F1LPCP	F1 Loop Composition	Identifies the composition of the feeder loop facility A = Coaxial B = Copper C = Fiber Y = PG (Qwest specific) Z = UDC (Qwest specific)
F2LPCP	F2 Loop Composition	Identifies the composition of

Field Label	Field Name	Description/Values
		the distribution loop facility(ies) A = Coaxial B = Copper C = Fiber Y = PG (Qwest specific) Z = UDC (Qwest specific)

C. Raw Loop Data

The Raw Loop Data Tool, also accessed by CLECs through IMA-EDI and the IMA-GUI, provides CLECs with the necessary loop make-up information to allow them to make a determination of whether a loop qualifies for the specific DSL service they wish to provide utilizing Qwest's two-wire or four-wire non-loaded loop products. This tool, introduced in IMA-EDI and IMA-GUI in December 2000, provides the CLECs with loop make-up information on a line-by-line basis. CLECs have the option of obtaining this data by address or telephone number. When queried by address, the tool returns loop make-up information for up to 24 circuits associated with the address.[11] When querying by telephone number, the CLEC can request loop make-up information for up to 24 telephone numbers.[12] The Raw Loop Data Response screen contains the following fields with loop make-up information. Additional fields display address-related information:

[11] *See* Exhibit BJB-LOOPQUAL-6, Raw Loop Data Query by Address Screen Print.

[12] *See* Exhibit BJB-LOOPQUAL-7, Raw Loop Data Query by TN Screen Print.

Field	Description
Loop Status	For an Assigned by Address query, the Loop Status field may show "RWKG" for Remote Working or "WKG" for Working. For an Unassigned by Address query, the Loop Status field may show "CNF" for Connected Facility, "CT" for Connected Through, and "PCF" for Partially Connected Facilities.
WCCLLI	The wire center CLLI code. This is the CLLI code of the wire center serving the end user address
MLTDIST	The distance used when a Mechanized Loop Test is performed. Applies only to copper facilities
Terminal ID	The terminal identification. The street address of the distribution point such as the cross-box or pedestal.
Cable Name	The cable identifier being queried. This is the unique designation assigned to a group of cable pairs/units between two terminal points.
Pair Gain Type	Identifies the type of pair gain, if present.
Pair Number	The unique number of the pair being queried.
LCT	Load Coil Type. The type of load coil present on the loop.
Load Point Amounts	The number of load coils present on a segment of the facility.
Bridge Tap Offset	Identifies the presence of bridge taps on a segment or subsegment of a loop. The

Field	Description
	first character identifies the subsegment that contains the bridge tap; the second character identifies the length at which the bridge tap appears. The length is measured in kilofeet from the origination of the segment on which it appears.
Make-up Desc.	Identifies the physical characteristics that make-up the transmission capacities of the facility. If this section of the facility contains multiple subsegments, they will be listed in sequence from the point of origination.

Qwest's Loop Qualification Tools and the Raw Loop Data Tool offer the following features: loop make-up for unpublished and unlisted telephone numbers; loop make-up for telephone numbers associated with PBX and Centrex systems; and loop make-up for new service, by providing for a recent changes check which assures that the most current information is provided regarding loop make-up information. Through these enhancements CLECs now have access to loop make-up information for all categories of Qwest working telephone numbers.

Additionally, through the Raw Loop Data tool, Qwest offers an option that enables CLECs to obtain information regarding spare facilities by using an unassigned address query. The tool will indicate if the facility is working, spare, connected all the way through to the central office, or partially connected in the latter segments from, for example, the cross-box to the customer serving terminal. Through this functionality the

Raw Loop Data tool returns information on fully connected spare facilities and spare loop segments that are not connected to the Qwest switch.

For those CLECs that want to obtain loop information on a batch basis, Qwest provides them with access to an external website, where they can obtain bulk raw loop data by wire center. Qwest makes this raw loop data information available in a comma-delimited format for all loops in a wire center. CLECs can access and search these files by using standard text search tools or by downloading the files to their own sites and integrating the data into their own systems.[13] This web-based tool provides the same loop make-up information as that provided by the IMA-EDI and the IMA-GUI Raw Loop Data Tool. By using this tool, CLECs have the ability to analyze the network infrastructure for an entire wire center or a community. As stated earlier, the source of this data is the same as for the tool that Qwest uses to qualify its Retail DSL service.

D. Manual Process

Finally, Qwest has implemented a manual process to permit CLECs to obtain loop make-up information in the unlikely event the Raw Loop Data or Loop Qualification tools provide incomplete or unclear loop make-up information for a particular address or telephone number or if the CLEC provides information that demonstrates that the loop information returned may be inaccurate. In any of these situations, Qwest will perform a

[13] This web-based tool requires CLECs to obtain a digital certificate to give them electronic access to Qwest confidential network information. CLECs must request a digital certificate or permission for each CLEC employee that will access Qwest confidential information.

manual search of its back office records, systems and databases where loop information resides to obtain the loop make-up information.

If the loop make-up information is missing for a particular loop segment, Qwest will investigate its outside plant engineering records for the cable and pair from the central office to the serving area interface ("SAI") and from the SAI to the customer's serving terminal. Qwest has agreed to return the loop make-up information to the CLEC via email within 48 hours. Qwest then will also update the applicable databases with the loop make-up information. Appendix D of Exhibit BJB-LOOPQUAL-2 describes this manual process. In addition, Qwest would agree to add the following language to any CLEC interconnection agreement in Minnesota:

> If the Loop make-up information for a particular facility is not contained in the Loop qualification tools, if the Loop qualification tools return unclear or incomplete information, or if CLEC identifies any inaccuracy in the information returned from the Loop qualification tools, and provides Qwest with the basis for CLEC's belief that the information is inaccurate, then CLEC may request, and Qwest will perform a manual search of the company's records, back office systems and databases where Loop information resides. Qwest will provide CLEC via email, the Loop information identified during the manual search within forty-eight (48) hours of Qwest's receipt of CLEC's request for manual search. The email will contain the following Loop make-up information: composition of the Loop material; location and type of pair gain devices, the existence of any terminals, such as remote terminals or digital Loop terminals, Bridged Tap, and load coils; Loop length, and wire gauge. In the case of Loops served by digital Loop carrier, the email will provide the availability of spare feeder and distribution facilities that could be used to provision service to the Customer, including any spare facilities not connected to the Switch and Loop make-up for such spare facilities. After completion of the investigation, Qwest will load the information into the LFACS database, which will populate this Loop information into the fields in the Loop qualification tools.

Given the breadth and capabilities of all the loop qualification tools provided to the CLECs, Qwest believes that these requests will be highly infrequent.

As set forth above, Qwest provides CLECs with loop make-up information in conformance with the Act, the UNE Remand Order, and FCC Section 271 Orders.[14] Qwest provides CLECs with the underlying loop make-up information from Qwest's back office loop databases that permit CLECs to determine whether a particular loop would qualify for xDSL services. As stated above, to assure parity and consistency of data, the data source underlying the Raw Loop Data tool and retail tools is the Loop Qualification Database ("LQDB"). The source for loop make-up information in the Loop Qualification Database is LFACS.

Additionally, KPMG performed an analysis of Qwest's loop qualification tools as part of the Regional Oversight Committee ("ROC") 12.7 Loop Qualification Test of Qwest's operations support systems ("OSS"). KPMG found that Qwest met the 11 evaluation criteria in its report. Specific details of the KPMG analysis are provided in Section VIII of my affidavit.

IV. FCC REQUIREMENTS REGARDING LOOP QUALIFICATION INFORMATION

Despite the robust tools available to CLECs, AT&T witness Mr. Wilson claims that the UNE Remand Order requires Qwest to provide direct access to loop information

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[14] The information provided in the Raw Loop Data Tool is comparable to the information Verizon provides in its loop make-up tool as presented in its Massachusetts application. *See* Exhibit BJB-LOOPQUAL- 8, Loop Make-up Comparison, for a side-by-side comparison of the Qwest loop make-up information and that of Verizon.

including the LFACS database.[15] He argues that the FCC requires Qwest to provide "any loop plant information that any Qwest employee has access to, including LFACS database."[16] However, Mr. Wilson confuses the term "data" and the term "database." Access to data means just that -- access to particular elements of data -- it does not mean direct access to a particular database. In addition, a closer reading of the UNE Remand Order shows that the FCC's requirement is not as expansive as Mr. Wilson claims. The FCC's requirement that the ILEC provide access to loop information falls under the umbrella of information necessary to qualify a loop for xDSL services. The FCC "clarified that pursuant to [its] existing rules, an incumbent LEC must provide the requesting carrier with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent, *so that the requesting carrier can make an independent judgment about whether the loop is capable of supporting the advanced services the requesting carrier intends to install.*"[17]

In fact, later in his affidavit, Mr. Wilson clearly recognizes that focus when he testifies that the "FCC has made clear that CLECs must have access to this loop and

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[15] *See* In the Matter of the Investigation Into Qwest Corporation's Compliance with Section 271(c)(2)(B) Of The Telecommunications Act of 1996, Docket No. P-421/CI-01-1371, Before the Minnesota Public Utilities Commission, Affidavit of Kenneth L. Wilson Regarding Checklist Item 4 and 11 – Unbundled Loops And Local Number Portability On Behalf of AT&T ("AT&T Affidavit of Wilson") at 7-8.

[16] AT&T Affidavit of Wilson at 7-8.

[17] *UNE Remand Order* ¶ 427 (emphasis added).

loop plant information *for loop qualification purposes*."[18] As Mr. Wilson himself admits, the FCC's focus on this requirement is not for all loop information that Qwest has, but rather, the requirement is for that data that is needed to perform loop qualification.

Qwest does provide access to that information through its Loop Qualification Tools. Qwest satisfies the requirements of the *UNE Remand Order* by providing appropriate access to the data in the LFACS database. Exhibit BJB-LOOPQUAL-9 demonstrates how Qwest's loop qualification tools meet the requirements of the UNE Remand Order. Mr. Wilson states that the FCC rulings are clear in that the "CLEC must have access to any loop or loop plant information that 'any Qwest employee has access to,' not what is accessible by Qwest's retail operations."[19] However, he misconstrues the language of the Order. First, as stated above, the focus is on information necessary for "loop qualification purposes."[20] Second, as discussed in Section III, Qwest provides much more information than is accessible by its retail operations.[21] As discussed above, Qwest provides the underlying loop make-up information from its back office systems and database via its loop qualification tools and, if necessary, via a manual search of its backoffice systems and records. Covad even acknowledges that it gets all of the information that it needs to qualify an unbundled loop for DSL: "It is not Covad's

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[18] AT&T Affidavit of Wilson at 7 (emphasis added).

[19] AT&T Affidavit of Wilson at 10.

[20] AT&T Affidavit of Wilson at 7.

[21] *See* Exhibit BJB-LOOPQUAL-9, Data Elements in Loop Qualification Tools.

position that Qwest does not provide the categories of information it requires in order to determine whether it can offer xDSL services."[22]

V. QWEST'S RESPONSE TO AT&T'S AND COVAD'S REQUEST FOR ACCESS TO LFACS

Both Mr. Wilson and Ms Camarota assert that the data provided to CLECs through Qwest's loop qualification tools is incomplete, inaccurate[23] or that the data provided to Qwest personnel is more robust, and as a result, require direct access to LFACS. These claims are unfounded because the loop qualification data obtained by using Qwest's loop qualification tools is a download of data from LFACS. Qwest, in providing appropriate access to LFACS and other databases, provides the data needed by CLECs to qualify loops. AT&T's claims that other ILECs provide direct access to LFACS are not correct. Qwest does not discriminate by providing its employees greater access to LFACS as claimed by AT&T.

A. Mediating Access to Back Office Systems is Necessary and Useful

AT&T claims that "Qwest refuses to provide . . . access"[24] to "…all loop qualification information that any Qwest employee has access to, including LFACs database, and any other databases or back office information that contains information

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[22] Covad Supplemental Response to IR No. 8.

[23] *See In the Matter of the Investigation Into Qwest Corporation's Compliance with Section 271(c)(2)(B) Of The Telecommunications Act of 1996*, Docket No. P-421/CI-01-1371, Before the Minnesota Public Utilities Commission, Affidavit of Nancy Camarota ("*Covad Affidavit of Camarota*"), at 33. AT&T Affidavit of Wilson at 7.

[24] AT&T Affidavit of Wilson at 7.

regarding Qwest's loop plant."[25] That is not correct. It is important to note that the underlying data source for the loop data is the Loop Qualification Database, the same database that supports the retail Qwest DSL tool. The data source for the Loop Qualification Database is LFACS. Thus, CLECs are receiving loop make-up information from the LFACS database already. AT&T suggests that Qwest employees have direct access to LFACS.[26] That is misleading and not entirely accurate. For the most part, Qwest employees requiring data from LFACS have mediated access as well.

There are a number of reasons to mediate access to back office systems both for in-house users as well as for those outside a company that require access to certain data. One important reason mediated access is necessary is to protect proprietary information. Mediated access protects this data by limiting access to the service provider for a given customer. Therefore, one carrier may not access the CPNI data for customers of another carrier. In fact, Qwest retail representatives may not access LFACS directly. Qwest retail representatives use an interface called QServ to qualify loops for Qwest DSL. The only Qwest employees who have direct access to LFACS are employees in the Information Technologies organization who provide technical support for LFACS and network engineers who are engaged in provisioning activities for both Qwest and for CLECs.

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[25] *Id* at 7.

[26] *Id.* at 11-12.

Another reason for creating mediated access to back office systems is to enable the use of standardized interfaces. The Alliance for Telecommunications Industry Solutions (ATIS) through its Ordering and Billing Forum (OBF) recognized the need for standardization in systems access. The Local Services Ordering and Provisioning committee of the OBF addresses and resolves "issues focused on the ordering and/or provisioning of local telecommunications services using the Local Service Ordering Guidelines (LSOG)."[27] The intent of these guidelines is to encourage standardization of the various interfaces that CLECs which operate nationally, like AT&T, will encounter with the various ILECs.

The interfaces through which CLECs access Qwest's OSS are relatively new and were designed to follow the industry guidelines applicable to provider-to-provider arrangements as discussed above. In contrast, Qwest's downstream systems are proprietary and were developed over a period of many years for internal employee access to support service provided to end-user customers. These systems were not developed consistent with the OBF guidelines. Moreover, many of these systems, including LFACS, are not at all user friendly. As a result, the design of the electronic interfaces through which CLECs access Qwest's OSS and the design of the Qwest Retail systems themselves are, by their very nature, different.

Direct access means that a user interacts directly with an OSS. The user must use the specific commands known to the particular OSS, and interface with the specific

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[27] *See* http://www.atis.org.

screens and data contained on those screens. It would not be reasonable to expect each CLEC sales representative, taking orders in multiple jurisdictions, to learn all the back office ordering systems used by each ILEC. It is much more logical for each CLEC sales representative to use one ordering interface for each ILEC and for those interfaces to follow the same guidelines for consistency. The interfaces take the data submitted by the CLEC representative and send it into the back office systems of the ILEC. While there may still be some variation from one ILEC ordering interface to the next, that variation is minimized because all of the ordering interfaces follow the same set of rules defined by the OBF. For these reasons, it would be problematic to permit direct access to LFACs as suggested by Mr. Wilson.[28]

B. Other ILECs Provide Mediated Access to LFACS

AT&T claims that SBC and Verizon provide direct access to LFACS.[29] Mr. Wilson quotes the SBC Kansas/Oklahoma Order,[30] as support for his assertion that SWBT offers CLECs "the ability to access LFACS directly via three interfaces."[31] However, Mr. Wilson misinterprets the language in the order that he quotes, as that paragraph actually provides evidence to the contrary. In fact, the order actually states that "SWBT provides competitors access to actual loop make-up information contained

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28 AT&T Affidavit of Wilson at 14.

29 AT&T Affidavit of Wilson at 16.

30 AT&T Affidavit of Wilson at 16.

31 AT&T Affidavit of Wilson at 17.

in SWBT's back-end system Loop Facilities Assignment and Control System (LFACS) through the pre-ordering interfaces Verigate, Datagate and EDI/CORBA."[32] This statement confirms that access to the data in SWBT's LFACS database is mediated, just as it is for Qwest's LFACS database. SWBT provides mediated access through its pre-ordering interfaces and so does Qwest.

Verizon also provides mediated access to the data in its LFACS database. As described in the Verizon Rhode Island Order, Verizon implemented a means for CLECs to obtain limited information from Verizon's LFACS database.[33] As described in that order, however, Verizon gives CLECs mediated access to this data through its CORBA,

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[32] AT&T Affidavit of Wilson at 16 (quoting SBC Kansas/Oklahoma 271 Order). *In the Matter of Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma,* Memorandum Opinion and Order, CC Docket No. 00-217, FCC 01-29, ¶121 (released January 22, 2001) *("SBC Kansas/Oklahoma 271 Order").*

[33] *In the Matter of Application of Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), Verizon Global Networks Inc., and Verizon Select Services Inc., For Authorization to Provide In-Region, interLATA Services in Rhode Island*, Memorandum Opinion and Order, CC Docket No. 01-324, FCC 02-63 *("Verizon Rhode Island Order 271 Order*") ¶ 56. Qwest describes this information as limited because in the Verizon Massachusetts Order, Verizon stated that it only had information in LFACS for about 10 percent of its terminal locations. *In the Matter of Application of Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions), and Verizon Global Networks Inc., For Authorization to Provide In-Region, interLATA Services in Massachusetts*, Memorandum Opinion and Order, CC Docket No. 01-9, FCC 01-130 *("Verizon Massachusetts 271 Order*").

GUI and EDI interfaces.[34] Interestingly, at the time of its Massachusetts application, which the FCC granted, Verizon had not even made this interface available. Rather, it had an "interim pre-order process" that provided LFACS data in a 24-hour turnaround timeframe.[35] This is also not an example of direct access. On the contrary, it is a request for data that must be processed by Verizon personnel. Qwest has already automated these functions in the various IMA-GUI and IMA-EDI loop data and loop qualification tools.

Additionally, Mr. Wilson asserts that Qwest does not offer CLECs the ability to request a manual search of records as SBC or Verizon provides.[36] This is incorrect. As stated above, Qwest does permit CLECs to request a manual look-up of loop make-up information should the Raw Loop Data or the Loop Qualification Tools respond with incomplete or unclear data or if the CLEC questions the accuracy of the information returned and provides Qwest with the basis for questioning the accuracy. CLECs can submit email requests to Qwest, and Qwest will respond within 48 hours. As part of this manual loop make-up search, Qwest investigates its back office records and materials to provide CLECs with the requested information. Explanation of this process is

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[34] *Verizon Rhode Island Order* ¶ 62 n. 171 (describing the volume of requests for loop make-up information as submitted through Verizon's COBRA, EDI, and GUI interfaces).

[35] *Verizon Massachusetts 271 Order* ¶ 57.

[36] AT&T Affidavit of Wilson at 17.

included in the IMA Loop Qualification and Raw Loop Data CLEC Job Aid 10.0, Appendix D, which is attached to this affidavit as Exhibit BJB-LOOPQUAL-2.

C. Qwest's Loop Qualification Tools Provide the Data AT&T and Covad Require.

Mr. Wilson asserts that Qwest's Raw Loop Data tool does not provide all loop make-up information. Specifically, AT&T claims it does not receive the following information:

Integrated Digital Loop Carrier and Digital Loop Carrier – AT&T's witness states that AT&T requires information regarding the presence of integrated digital loop carrier ("IDLC") and spare facilities in order to determine if a CLEC will be able to serve the end user.[37] All of the IMA loop qualification tools provide information regarding pair gain facilities on the loop.[38] In addition, the Wire Center Raw Loop Data Tool provides information on the presence of pair gain devices on loops for an entire wire center.[39] As discussed above, this web-based tool provides information in a comma delimited file that the CLEC can download onto an Excel spreadsheet or other data application and then sort according to the information of interest to the CLEC, including sorting to identify the presence of pair gain. Through this tool, CLECs can identify communities in which IDLC is or is not prevalent.

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37 AT&T Affidavit of Wilson at 10-11.

38 *See* Exhibit BJB-LOOPQUAL-10, Unbundled ADSL with Pair Gain Screen Prints.

39 *See* Exhibit BJB-LOOPQUAL-11, Wire Center Batch Response and RLD Response with Pair Gain Screen Prints.

Covad also states that information regarding the identification of pair gain and DLC should be provided on the Loop Qualification Tools.[40] As discussed in the preceding paragraph, Qwest provides a wealth of information on pair gain devices. In addition, Chapters 3 and 5 of the Loop Qualification and Raw Loop Data CLEC Job Aid, provide a description of the data elements returned with various loop qualification queries. Appendix B of the CLEC Job Aid details the query response, whether the pair gain device is integrated or not, the vendor name and the actual pair gain device. In addition, I have attached to this Affidavit an exhibit that contains a matrix of the data elements required by the UNE Remand Order, including pair gain and pair gain type, and how Qwest's Loop Qualification Tools provide those data elements.[41]

Loop Conditioning – AT&T asserts that "information on loop conditioning . . . is not in the raw loop data tools."[42] Assuming that Mr. Wilson is referring to the information on load coils or bridged taps, that assertion is incorrect. Qwest's Loop Qualification Tools contain information on load coils and bridged taps. The Raw Loop Data Tool provides both the type of load coils and the number of load coils on the loop by loop segment.[43] It also provides information on the presence and location of bridged tap on

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40 Covad Affidavit of Camarota at 23.

41 *See* Exhibit BJB-LOOPQUAL-9, Data Elements in Loop Qualification Tools.

42 AT&T Affidavit of Wilson at 12.

43 *See* Exhibit BJB-LOOPQUAL-2, CLEC Job Aid, chapter 3, p. 32.

each segment of the loop. The IMA Loop Qualification Tool also provides both the type of load coils and the number of load coils on the loop.[44]

Spare Facilities – AT&T claims that Qwest's Loop Qualification Tools do not provide information on spare facilities, including loop fragments. Specifically, he states AT&T needs information regarding loops that are attached to the switch, partially attached to the switch, not attached to the switch, as well as distribution and feeder not attached to the switch.[45] Qwest provides loop make-up information on spare facilities. In its August 2001 IMA Release 8.0, Qwest enhanced the Raw Loop Data tool to include spare or unassigned facilities and partially connected facilities. IMA Release 8.0 added a loop status field to the Raw Loop Data tool, which indicates whether the loops are working or non-working. If the facility is associated with a working telephone number, then the data would be obtained using the "Assigned Address" query, and the Loop Status would show as "WKG" for working. The "Unassigned Address" query returns the spare facilities, and the Loop Status field response provides the following codes: "CNF" which indicates that the spare is a non-primary end-to-end loop, "CT" which is a primary spare connected through, or "PCF" which indicates a partially connected facility where the loop is connected only in the latter segments.[46] The PCF facilities are not connected to the switch, but are connected from the cross-box to the

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[44] *See* Exhibit BJB-LOOPQUAL-2, CLEC Job Aid, chapter 5, p. 71, 77.

[45] AT&T Affidavit of Wilson at 18.

[46] *See* Exhibit BJB-LOOPQUAL-12, Raw Loop Data Query with CNF, CT and PCF Result Screen Prints.

customer serving terminal. The IMA Loop Qualification and Raw Loop Data CLEC Job Aid I have attached to this affidavit provides a complete description of querying the Raw Loop Data tool for information on spare facilities.

Qwest's Raw Loop Data tool provides output formatted based on loop segments. CLECs do receive data regarding feeder (F1) and distribution (F2-Fn) segments in a loop.[47] The Raw Loop Data tool also provides information on each segment regarding pair gain devices, load coils, bridged taps, cable gauges and the length of each gauge, all of which Mr. Wilson identified as data that AT&T requires.[48]

Moreover, the FCC does not require ILECs to provide make-up information on spare facilities. For example, as represented in the SBC Kansas/Oklahoma Order, Southwestern Bell only returns make-up information for a single loop in response to a loop make-up query.[49] The FCC stated in that order that "it is not self-evident from the *UNE Remand Order* that a BOC must provide loop make-up information on all loops that serve a particular address."[50] As stated earlier, the Raw Loop Data Tool was enhanced in Release 8.0 of IMA-GUI and IMA-EDI, which was implemented on August

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47 *See* Exhibit BJB-LOOPQUAL-13, Raw Loop Data Query with F1 and F2 Segments Screen Prints.

48 *Id.* at 11.

49 Memorandum Opinion and Order, *Joint Application by SBC Communications Inc., Southwestern Bell Telephone Company, and Southwestern Bell Communications Services, Inc. d/b/a Southwestern Bell Long Distance for Provision of In-Region, InterLATA Services in Kansas and Oklahoma*, CC Docket No. 00-217, FCC 01-29 at ¶ 128 (rel. Jan. 22, 2001) ("SBC Kansas-Oklahoma Order").

18, 2001, to include data for spare facilities. Spare facility information is also available via the Facility Check pre-order function in IMA GUI and IMA EDI on an individual facility basis. Consequently, Mr. Wilson's claims that Qwest does not provide access to data regarding spare facilities[51] are unfounded.

Timely Updating of Loop Qualification Information – Covad states that loop information is not timely updated into the databases.[52] The Loop Qualification Database is synchronized with LFACS on a rolling monthly basis. However, the Loop Qualification Tools and Raw Loop Data Tool were enhanced with the IMA 8.0 IMA Release, which occurred in August of 2001, to include a "recent changes" check. When a CLEC requests the loop make-up information, the system will check to see if there has been any recent change activity on the facility recorded in the LFACS database. If there has been a recent change, then the most current information will be retrieved from LFACS and returned to the CLECs through the response. [53]

As can be seen, Qwest provides a suite of tools for obtaining loop information and loop qualification. CLECs may obtain raw loop data for an individual facility or for an entire wire center. Qwest also provides CLECs with access to its enhanced IMA Loop Qualification Tool, its ISDN qualification tool, and its POTS Conversion to

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50 *Id.*

51 *Id.* at 12.

52 Covad Affidavit of Camarota at 34.

Unbundled Loop Tool. In short, Qwest gives CLECs multiple avenues for obtaining loop information, and Qwest provides documentation regarding the data contained in this suite of tools.

Ms Camarota testifies that Qwest has suggested "that CLECs check four or more prequalification tools (the RLDT, the batch wire center information, the "facility check" tool and the ADSL tool) in order to get the same loop make-up information as is contained in LFACS."[54] Frankly, the fact that she makes this statement shows that she does not have a clear understanding of the Loop Qualification Tools or how to use them. In fact, Ms. Camarota has confirmed in response to a data request from Qwest that she has not used any of the loop qualification tools Qwest provides.[55] Each of these tools has a specific purpose and can be used by the CLEC based on what it needs to do. For example, if a CLEC wishes to avail itself of Qwest DSL for Resale and provide resold DSL services to its customers, then the appropriate tool to use is the Qwest DSL Loop Qualification Tool.[56] If a CLEC wishes to offer ADSL and prefers that Qwest perform the qualification calculation, then the ADSL Loop Qualification Tool would be the one to use.[57] Although this tool was designed for ADSL qualification, if the

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53 This was evaluated as part of the ROC OSS 3rd Party Test. In the Final Report for Test 12.7 in Section 2.1.2, KPMG described this functionality in the paragraph entitled "System Performance/Database Updates".

54 Covad Affidavit of Camarota at 33.

55 *See* Exhibit BJB-LOOPQUAL-14, Covad Response to IRs No. 40, 41 and 42.

56 *See* Exhibit BJB-LOOPQUAL-2, CLEC Job Aid, chapter 5, starting at p. 74.

57 *See* Exhibit BJB-LOOPQUAL-2, CLEC Job Aid, chapter 5, starting at p. 61.

CLEC prefers the uniform, industry-standard format with which information is returned, it may view the loop make-up information for a facility using this tool. However, if a CLEC would like to see all of the detailed data on a loop and wants to perform the qualification calculation itself based on the specific type of xDSL service it is providing, then the Raw Loop Data Tool is the appropriate tool.[58] In addition, if a CLEC would like to see loop make-up information for an entire wire center, then it could access the Wire Center Raw Loop Data Tool. The batch wire center information Ms. Camarota mentions is not intended for individual queries of loops. Rather, as its name suggests, the website provides information on the loops in an entire wire center. The tool is intended for CLECs to download the information into their own databases or an Excel spreadsheet so that the CLEC can manipulate the data as it sees fit.[59]

As stated earlier, Qwest complies with the FCC's requirements to provide access to loop make-up information to enable a CLEC to determine if a loop qualifies for xDSL services. In many cases the tools Qwest provides to the CLECs go beyond what the FCC requires in providing detail to the CLECs as shown in Exhibit BJB-LOOPQUAL-9. Although AT&T and Covad fail to identify any information the tools do not currently return for loop qualification, if AT&T and Covad require data in addition to that which is already provided by Qwest, there is a more appropriate forum at which to make such requests. Qwest's Change Management Process ("CMP") is the forum where CLECs

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58 *See* Exhibit BJB-LOOPQUAL-2, CLEC Job Aid, chapter 3.

59 *See* Exhibit BJB-LOOPQUAL-2, CLEC Job Aid, chapter 6.

bring their requests for additional functionality. By using the CMP, CLECs define their additional data needs in the form of a CLEC-initiated change request (CR), which can then be placed before the CLEC membership for discussion, evaluation, and prioritization according to CMP procedures.[60]

D. Mediated Access Is Not Discriminatory

As discussed above, the FCC described the access to LFACS data that SBC provides in Kansas and Oklahoma as mediated access. The FCC determined that SBC provides the data from LFACS that CLECs need, and they do so in a non-discriminatory manner.[61] The FCC made the same determination for Verizon in Massachusetts.[62] Qwest provides the same kind of data from LFACS using the same types of mediated access methods. Qwest does not give its retail sales representatives direct access to LFACS. As stated earlier, the Qwest employees who do have direct access, do so in order to support the database, or because they perform provisioning functions for Qwest

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60 Information and documentation regarding the CMP may be found at <http://www.qwest.com/wholesale/cmp/index.html>.

61 "We find that SWBT provides these mechanized and manual processes to competing carriers in a nondiscriminatory fashion and allows access to loop qualification functionality as a pre-ordering function in substantially the same manner as it does for itself. Where loop make-up information resides in an electronic format within SWBT's systems, SWBT enables competing carriers access to this information." *SBC Kansas/Oklahoma 271 Order* ¶ 122.

62 "We conclude that Verizon demonstrates that it offers nondiscriminatory access to OSS pre-ordering functions associated with determining whether a loop is capable of supporting xDSL advanced technologies." *Verizon Massachusetts 271 Order* ¶ 60.

and CLEC orders. Therefore, it follows that Qwest's mediated access is not discriminatory.

Ms. Camarota claims that it would be more "straightforward" and "efficient" to access LFACS than the tools Qwest makes available.[63] However, Covad has confirmed in response to Qwest discovery requests that Ms. Camarota has no training regarding LFACS. To correct Ms. Camarota's mis-impressions, LFACS is not an easily searchable database. LFACS does not have a "query" function that would enable a CLEC to easily determine the loop make-up of a specific customer's loop. Loop make-up information is stored in LFACS by distribution terminal or cross-box, by cable range and the facility pair number, not by individual telephone number or by address. Thus, to find the loop make-up information any particular address is neither easy nor "straightforward". The Raw Loop Data Tool, in contrast, can be searched by telephone number or address.

Finally, in the IMA 9.0 Release of IMA, which was deployed in February of 2002, Qwest enhanced its Loop Qualification Tools to provide ADSL qualification and loop make-up information in a single tool. It appears that Ms Camarota is unaware of it because she does not mention the availability of this tool at all in her testimony.

E. Other State Commissions and the ROC OSS Test Determined Qwest Provides Non-Discriminatory Access to LFACS Information

To date, no state commission has required Qwest to provide "direct" access to its LFACS database. For example, the Facilitator in the Multi-state workshop process that

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[63] Covad Camarota Affidavit at 33.

included the states of Idaho, Iowa, Montana, North Dakota, Wyoming, New Mexico and Utah addressed this question regarding access to LFACS data.[64] The facilitator stated, "We can first conclude that the evidence shows that LFACS does not have the capability to provide the information that AT&T seeks, but that it does contain a very broad range of information that is both very sensitive and hard to exclude from unmediated access."[65] The Facilitator also found that "Qwest has cited a number of other available Raw Loop Data tools that appear better suited to AT&T's needs. Given the potential, the preferable course at this time is to assure AT&T has access to them."[66] Qwest has made the Raw Loop Data Tool and the Loop Qualification Tool available to AT&T and all other CLECs. In addition, the state commissions in Arizona, Colorado, Oregon, and Washington have rejected AT&T's demand for direct access to the LFACS database and its request that Qwest create the functionality for CLECs to perform mechanized loop tests ("MLTs") on a pre-order basis. The state commissions in Arizona and Washington recommended that Qwest create a process whereby CLECs can request a manual search for loop make-up information, and as discussed above, Qwest has done so. Qwest has updated its documentation to ensure that CLECs are aware of the processes for requesting such manual loop make-up information.

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64 *See* Exhibit DP-LOOP-16 to the Affidavit of Dennis Pappas on Checklist Items 2 and 4: Unbundled Loops, Subloops and NIDs (August 2, 2002).

65 *Id.* at 66.

66 *Id.*

Accordingly, as all state commissions to date have found, Qwest provides the loop information that AT&T and Covad need via mediated access to LFACS data. Indeed, Covad has confirmed that Qwest's Raw Loop Data Tool provides all categories of information Covad requires to determine whether a loop would support its xDSL services. Specifically, in its July 24, 2002 Response to Qwest's Motion to Compel in this proceeding, Covad stated that the Raw Loop Data Tool provides it with all categories of information it needs to determine if a loop will support its DSL service. Specifically Covad states, "Covad has never invoked technical differences between its DSL products and that offered by any other entity to suggest that the [Raw Loop Data Tool] should provide different or additional types or categories of information. Covad has never stated in any testimony or brief that the categories of information provided by the [Raw Loop Data Tool] are insufficient for it to determine whether a loop meets Covad's technical needs." In its response to Qwest Data Request No. 8 Covad stated: "It is not Covad's position that Qwest does not provide the categories of information it requires in order to determine whether it can offer xDSL service." Covad further stated that "while the RLDT [Raw Loop Data Tool] does provide the categories of information Covad requires in order to determine whether it can provide xDSL service," it believes that information may at times be inaccurate. Thus, Covad has acknowledged that the Raw Loop Data Tool already provides the categories or types of information Covad requires. Because LFACS is the source of the loop make up information in the Raw Loop Data Tool, Covad is already receiving the information from LFACS that it requires.

Qwest has created a number of tools in IMA-GUI and IMA-EDI that provide this information, including the Raw Loop Data Tool and the Loop Qualification Tool. The FCC has determined that mediated access is not discriminatory and is an appropriate means for giving CLECs access to ILEC back office systems and the loop make-up information in them. Therefore, it is not appropriate or necessary to give AT&T or Covad direct access to Qwest's LFACs or other databases as noted in Mr. Wilson's and Ms Camarota's affidavits.

VI. QWEST'S RESPONSE TO AT&T AND COVAD'S REQUEST FOR PRE-ORDER MECHANIZED LOOP TESTING (MLT)

AT&T's Witness, Mr. Wilson and Covad Witness, Ms. Camarota, argue that Qwest must allow CLECs to perform or request a pre-order MLT ("mechanized loop test") in order to verify that a loop can support the services the CLEC intends to offer. Ms. Camarota, however, appears in her testimony to be requesting a "pre-delivery" MLT for a line sharing circuit prior to provisioning and not a "pre-order" MLT test for loop qualification purposes.[67] To the extent Ms. Camarota makes recommendations around MLT testing for provisioning purposes or other MLT issues outside the scope of pre-ordering loop qualification, please refer to the affidavit of Qwest witness Dennis Pappas.

With respect to pre-order use, Mr. Wilson and, to some extent, Ms. Camarota, claim that this is necessary because an MLT provides additional information that is not

[67] Covad Affidavit of Camarota at 9.

available through the existing loop qualification tools.[68] There are several reasons why AT&T's and Covad's requests are unfounded on a pre-order basis.

First, the Loop Qualification Tool and the Raw Loop Data Tool available via IMA are more comprehensive and accurate tools to verify that the loop can support the services the CLEC intends to provide over that loop facility than MLT. For example, the version of MLT system currently deployed in Qwest's network does not report the presence of bridged taps and load coils, important information for determining whether a loop qualifies for advanced services. In addition, the MLT may provide misleading loop length information. Because it is a test that measures resistance on the line, an MLT may overestimate loop length by as much as 20 percent. Simply unplugging a telephone can change the reported MLT loop length.

Although the Qwest MLT will provide an indication that digital loop carrier equipment is present, it does not provide details of that equipment. The Raw Loop Data Tool, however, returns information about the presence, location, and type of digital loop carrier on the loop. The Loop Qualification Tool also presents information on the presence of pair gain.[69] Accordingly, a Qwest MLT will not provide more detailed or more accurate loop make-up information.

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[68] AT&T Affidavit of Wilson at 21; Covad Affidavit of Camarota at 7-8.

[69] The terms "digital loop carrier," or DLC, and "pair gain," or PG are synonymous and are used interchangeably.

Second, the MLT loop length from an MLT distance data extraction conducted by Qwest, more than two years ago, has been incorporated into the Raw Loop Data Tool.[70] When Qwest first created the Loop Qualification Database, there was a limited amount of loop make-up information available to qualify facilities for xDSL services. Because of the lack of loop length information at that time, Qwest performed some MLTs to extract MLT distance data and, together with other distance database record information, obtained the estimated loop length for the missing segments and algorithmically populated the appropriate data for those segment distances for which it applied in the Loop Qualification Database. The MLT information entered into the Loop Qualification Database was baseline information only and may not reflect the actual length of a loop, as discussed above. Qwest subsequently embarked on an aggressive undertaking to add the feeder and distribution loop make-up information into the LFACS database, which feeds the Loop Qualification Database. Throughout 2001, Qwest continually added loop make-up information into LFACS. Because both Qwest and CLECs use this database to perform loop qualification queries, and CLECs use this database to obtain raw loop data, this information is equally available to both Qwest and CLECs. Furthermore, as discussed herein, both the Raw Loop Data Tool and the IMA Loop Qualification Tool include loop length information in addition to the MLT length. In the Raw Loop Data Tool, loop gauge and segment length is provided. The Loop

[70] MLT distance was only obtained and entered into the Loop Qualification Database for copper facilities.

Qualification Tool includes the equivalent loop length, if available,[71] the loop length, and sub-segment loop length by gauge. This loop length information is more reliable than the length indicated by an MLT.

Third, MLT is primarily a repair test.[72] It is not meant to be nor was it ever designed to be a pre-order qualification tool for loops. Qwest does not perform line-by-line MLT tests for itself as a pre-order function. The retail Qwest DSL pre-qualification process does not include "live" MLT testing. Retail sales employees are neither trained on nor do they have access to MLT. Those employees use the QServ tool that informs them if DSL is available at a specific address or telephone number. This is far less information than is provided to CLECs as the CLECs get specific detailed information on loop make-up and length of the loop. With this information, CLECs can do what Mr. Wilson wants - make their own determination if the loop is qualified to support their services.

Fourth, an electronic MLT can only be performed on loops with working telephone numbers that are connected to a Qwest switch. Thus, an electronic MLT cannot be performed on spare loop facilities, as spare facilities do not have working telephone numbers. Additionally, an MLT cannot be performed on unbundled loops that have been provided to a CLEC because such a loop is no longer connected to a Qwest

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[71] Equivalent loop length estimates the length of the loop if the gauge of the loop were 26 gauge.

[72] Consistent with this standard use of MLTs, CLECs do have access to MLT for repair purposes of UNE-P and resold lines (i.e., those lines that remained connected to the Qwest switch) for their own customers.

switch. Once the loop is unbundled from a Qwest switch and transferred to the CLEC switch, neither Qwest nor another CLEC would have the ability to perform an MLT on that loop. For the most part, provisioning of DSL loops are new connects rather than a conversion of an existing service. Therefore, an electronic MLT could not be performed.

Fifth, if CLECs find conflicting loop make-up information in the tools, Qwest will conduct a manual search of its records to obtain loop make-up information. This manual process is described above in Section III.

Finally, in its comments to the FCC on Qwest's first 271 application, Covad has speculated that Qwest is "withholding" information from a now nearly 2-year old MLT data extraction for MLT distance information. Contrary to Covad's speculation (Covad has presented no evidence at all regarding this allegation), Qwest is not withholding MLT information from CLECs. As discussed above, the MLT distance data that Qwest extracted has been entered into the Loop Qualification Database that serves the Raw Loop Data tool. Also, as discussed above, because the version of MLT used in Qwest's network does not return information on the presence of bridged taps and load coils, the MLT distance data extraction would not have had information on bridged taps or load coils. Thus, the MLT information that is available to Qwest on a pre-order basis is equally available to CLECs.

For additional information on the capabilities of MLT or the bulk deload project, please refer to the Affidavit of Qwest witness Dennis Pappas.[73]

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[73] *See* Exhibit DP-LOOP-16 to the Affidavit of Dennis Pappas on Checklist Items 2 and 4: Unbundled Loops, Subloops, and NIDs (August 2, 2002).

The Alliance for Telecommunications Industry Solutions (ATIS) through its Ordering and Billing Forum (OBF) recognized the need for standardization in systems access and loop qualification information. The Local Services Ordering and Provisioning committee of the OBF addresses and resolves "issues focused on the ordering and/or provisioning of local telecommunications services using the Local Service Ordering Guidelines (LSOG)."[74] The LSOG, version 5, included guidelines on pre-order loop qualification information. Those guidelines do not include reference to providing MLT information as a pre-order loop qualification function. Accordingly, the industry standards organization has not determined that this information is necessary for loop qualification purposes.

Although AT&T and Covad have raised this issue in other jurisdictions, to date, no state commission has ordered Qwest to create the functionality for CLECs to perform an MLT on a pre-order basis.[75] For example, the Multi-State Facilitator agreed with the inherent problems with allowing CLECs access to MLT tests. As long as the information is available in other sources, as it is in the IMA Loop Qualification Tools and Raw Loop Data Tool, the recommendation was that there is no reason for a CLEC to have access to the MLT tests.[76] Arizona, Colorado, Oregon, and Washington have each,

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[74] *See* http://www.atis.org.

[75] In fact, the only two state Commissions to initially recommend this process reversed their determinations.

[76] *See* Affidavit of Dennis Pappas on Checklist Items 2 and 4: Unbundled Loops, Subloops and NIDs (August 2, 2002)

independently, rejected this demand as well. Likewise, no FCC order requires the creation of a functionality for CLECs to perform MLTs as a condition of complying with the UNE Remand Order requirements on loop qualification.

In summary, the Loop Qualification Database Tools available to the CLECs via IMA are a more accurate and complete record to determine if a loop is qualified for CLEC services.

VII. COLORADO FOC TRIAL

Both Mr. Wilson and Ms. Camarota make reference in their testimony to a trial conducted in Colorado over a year ago. In fact, the only evidence Ms. Camarota presents of the alleged "inaccuracies" with the Raw Loop Data Tool stems from this trial. Thus, in the more than a year since the end of this trial, Covad has garnered no additional documents or evidence relating to its claims and presents no current data regarding its supposed use of the tools. This absence of evidence alone undermines the credibility and relevance of its claims.

By way of background, in March and April 2001, Qwest conducted a trial of its performance in providing Firm Order Confirmations ("FOCs") for xDSL loops in Colorado. The purpose of the trial was to determine if moving from a 24-hour FOC to a 72-hour would provide CLECs with a “more meaningful” FOC. This trial was also intended to evaluate Qwest’s Raw Loop Data Tool.

Ms. Camarota testifies that during the xDSL FOC trial, the Qwest's RLDT suffered from some deficiencies.[77] Some of those concerns were valid, as Qwest acknowledged, and resulted in modifications to the Raw Loop Data Tool and Loop Qualification Database. Others, however, were not, and the tools returned information, as they should. During the trial, Covad submitted approximately 975 orders. Based upon Qwest's analysis of the trial data, even before Qwest's enhancements to the Raw Loop Data tool, the Raw Loop Data tool returned reliable loop make-up information on approximately 88% of Covad's orders. Covad perceived problems on only 11.7% of the total orders submitted. The vast majority of Covad's concerns regarding the tool were addressed in the enhancements implemented in IMA Release 8.0. Others were simply a result of Covad misreading the Raw Loop Data output.[78]

During the trial, there were instances in which the Raw Loop Data Tool returned a response of "No Working TN." Upon investigation, Qwest determined that these responses related to non-published and non-listed numbers as well as loop make-up associated with Centrex or a PBX. Based upon information learned in the trial and feedback received during the 271 workshops, Qwest made several improvements to the Raw Loop Data tool. IMA Release 8.0, issued in August 2001, contained enhancements to the Raw Loop Data Tool which included:

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[77] Covad Camarota Affidavit at 30.

[78] Covad has confirmed in response to discovery from Qwest that it has no documented procedures or policies requiring its employees to use the Raw Loop Data tool. It also does not retain screen prints from its queries.

- Loop make-up for non-published and non-listed telephone numbers.[79]
- Loop make-up for telephone numbers associated with Centrex and PBX systems.
- Loop make-up information for spare facilities, including partially connected facilities (e.g., those connected from the cross-box to the customer drop).
- A "recent changes" check for updated loop make-up information in LFACS. If the Raw Loop Data Tool finds such a change, the updated LFACS information is returned.

Thus, these modifications to the Raw Loop Data tool address Ms. Camarota's allegations regarding the "No Working TN" response.[80] In addition, after the IMA Release 8.0, Qwest analyzed of the occurrences from the Colorado Trial that had resulted in a "No Working TN" condition using the new functionality in the Raw Loop Data Tool. As a result of the modifications deployed in August of 2001, the Raw Loop Data Tool, successfully returned information on more than 99% of the orders that had originally resulted in the previous "No Working TN" response during the Colorado trial.

Ms Camarota claims that the Raw Loop Data Tool erroneously omits MLT distance.[81] However, Qwest noted that in many of the examples presented to Qwest,[82]

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79 *See* Exhibit BJB-LOOPQUAL-6, Raw Loop Data Query by Address Screen Print.

80 Covad Camarota Affidavit at 30.

81 Covad Camarota Affidavit at 30.

82 Covad has stated in response to discovery requests and motions to compel that it does not retain screen prints from the Raw Loop Data Tool and that it has

a segment of the loop was on a pair gain system. However, as the CLEC Job Aid makes clear, the Raw Loop Data Tool only contains MLT distance information for copper loops. Thus, for those loops with pair gain on a segment, the Raw Loop Data Tool correctly does not contain an MLT distance. Exhibit BJB-LOOPQUAL-15 contains screen prints that demonstrate that Covad was looking for MLT distance when the facility was served by pair gain technology.[83] For several loops, Ms Camarota claims that no overall loop length is provided. However, the Raw Loop Data Tool reports the length of each segment of the loop, not the overall loop length. To obtain the overall loop length using the Raw Loop data, a CLEC can calculate the loop length by adding the length of each segment. With the deployment of the IMA Release 9.0 in February of 2002, Qwest enhanced its Loop Qualification Tools to provide loop make-up information based on LSOG 5 guidelines. The Loop Qualification Tool includes the equivalent loop length, if available,[84] the loop length, and loop length by gauge. Ms. Camarota appears to be unaware of and unfamiliar with this enhancement to the Qwest loop qualification tools.[85]

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provided Qwest with all of Covad's underlying information from the trial. Covad has not produced screen prints relating to the bulk of its allegations. During the trial, Covad provided Qwest a sample of 18 screen prints to analyze.

[83] Qwest took a PON for an LSR that Covad submitted during the Colorado FOC Trial and re-submitted the RLD query. The query correctly did not return an MLT distance because there was pair gain on the loop.

[84] Equivalent loop length estimates the length of the loop if the gauge of the loop were 26 gauge.

[85] *See* Exhibit BJB-LOOPQUAL-14, Covad Response to IRs 40, 41 and 42.

Ms Camarota discusses what she calls "false positives" and "false negatives."[86] A "false positive" occurs when the loop qualification tool indicates that a compatible facility is available, but Qwest is unable to provision the service. Qwest's research showed that "false positives" occurred in only about 1 – 2% of the loops evaluated during the Colorado trial.[87] The "false negative" occurs when the Raw Loop Data Tool identifies that the loop is not copper, but Qwest is successful in finding a copper alternative. While Ms. Camarota portrays this as a "problem" with the tool, this is not the case. Regardless of the results that the loop qualification tools return, Qwest still allows CLECs to submit an unbundled loop LSR, and Qwest will attempt to assign facilities to meet the CLEC's request. As discussed in the Affidavit of Dennis Pappas, if unbundled loops are not available through Qwest's mechanized assignment system, Qwest has committed to seek alternatives (such as a line and station transfer, conditioning a loop, or recovery of defective pairs) when a copper alternative is necessary. When a CLEC submits an order for a 2-wire non-loaded or other xDSL capable loop, Qwest makes every attempt to fill that order. As a result of this process, there are valid reasons why Covad could receive a "negative" qualification, but still receive a clean copper loop.

Ms. Camarota also claims that there is no consistency between queries. She does not provide specific examples of the alleged inaccuracies nor does she not provide

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86 Covad Camarota Affidavit at 30.

87 *See* Exhibit BJB-LOOPQUAL-16 (Qwest Brief Re: Loop Issue 24, xDSL FOC Trial CPUC Docket No. 97I-198T, July 2001).

any current data that suggests that these inaccuracies remain after the significant changes to the loop qualification tools since the trial. Ms. Camarota also ignores the fact that Qwest has instituted a manual search process that permits CLECs to request that Qwest investigate incomplete or unclear information returned by the tools. Thus, CLECs can request clarification of the results returned in the tools, and Qwest will respond in 48 hours.

Ms. Camarota also complains about a "Pop Up" screen in the Qwest DSL tool that she claims will "update/fill in missing information for that prequalification tool."[88] In response to discovery requests from Qwest on this matter, Covad has submitted no screen prints, no documents, and no details regarding this allegation. Based upon Qwest's investigation, however, it appears that Ms. Camarota has misinterpreted the information she claims Covad was told. Her affidavit suggests that this "Pop Up" screen updates the loop make-up information that would feed the tool. It does not. There is no data input feed from the sales representative's computer screen to the Loop Qualification Database. Therefore, this "Pop Up" screen does not "update" or "fill in" missing information as Ms. Camarota suggests.

Rather, it appears that Ms. Camarota is referring to a capability that previously existed for both Qwest retail and CLEC customers using the Qwest DSL tool that permitted users to submit a request for further investigation if the tool returned a

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[88] Covad Camarota Affidavit at 32.

response that it was unable to qualify the loop.[89] However, since Ms. Camarota's reference date of August 16, 2001, Qwest has eliminated this functionality from its retail and wholesale tools. Thus, this functionality no longer exists.[90] As discussed throughout this affidavit, Qwest has implemented a more robust manual loop make-up request process that permits CLECs to request that Qwest search its back office systems, records or databases if the information returned in its loop qualification tools, including the Raw Loop Data tool, is incomplete or unclear, or if the CLEC provides information that demonstrates that the loop information returned may be inaccurate. After completing the manual search, Qwest will provide the information to the CLEC and update the information in the loop qualification tools.

As stated earlier, the issues presented by Ms Camarota are extremely dated. Since the xDSL FOC Trial, more than a year ago, Qwest has made significant changes to its loop qualification tools, including the introduction of the IMA 9.0 Loop Qualification Tool. For example, in August 2001, Qwest implemented the enhancements to the Raw Loop Data Tool in IMA Release 8.0 that I discuss above.

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89 *See* Exhibit BJB-LOOP-QUAL-17; Covad response to IR No. 36

90 *See* Exhibit BJB-LOOP QUAL-18, Loop Qualification CLEC Notifications. This capability had been implemented earlier, but was removed in December 2001. The first notification in this exhibit provided notification to CLECs of the removal. This capability was equally available to both Retail and CLECs alike. In addition, as shown on the second notification of this exhibit, as early as July 2001, CLECs had the ability to request additional investigation on loop make-up information provided by Qwest for Raw Loop Data or Unbundled ADSL. As a result, CLECs had the ability to request additional investigation for all the loop qualification tools.

In October 2001, Qwest added an auto-qualification functionality for Qwest DSL for Resale. With this enhancement, when the IMA Loop Qualification tool returns a "not qualified" response, the CLEC has the option to have the loop periodically re-qualified.

Qwest deployed IMA Release 9.0 in February 2002, which contained the enhanced version of the Loop Qualification Tool discussed above. This tool, based on LSOG 5 guidelines, combines the functionality of the Qwest DSL for resale and unbundled ADSL tools and provides loop make-up information in an industry-standard format. Qwest further enhanced the tool in a March 2002 9.0 Production Patch, with the introduction of loop make-up information on working unbundled loops assigned to CLECs. [91]

Ms. Camarota does not comment on any of these enhancements. Furthermore, Ms. Camarota appears to be unaware of the IMA 9.0 Loop Qualification tool, which provides detailed loop make-up information in a user-friendly, industry-standard LSOG 5 format.

Mr. Wilson cites the xDSL trial description and suggests that Qwest is depriving CLECs of necessary information in LFACS.[92] Two points bear mentioning. First, the portion of the xDSL trial documentation that Mr. Wilson discusses relates to the provisioning of an order, not to pre-order loop qualification activities. As Mr. Pappas describes in his affidavit, the provisioning process is the same for Qwest retail and

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91 *See* Exhibit BJB-LOOPQUAL-19, Raw Loop Data Query by Address for Unbundled CLEC Loop Screen Print.

92 AT&T Affidavit of Wilson at 15-16.

CLECs. Second, the document Mr. Wilson attaches to his testimony was created long before the implementation IMA 8.0. Thus, whereas at the time of the trial, the Raw Loop Data tool did not return information on spare facilities, it does now. As described several times in my reply affidavit, although no FCC order requires Qwest to provide loop make-up information on "fragments" of a loop or spare facilities, the Raw Loop Data Tool provides information on each segment of the loop and also provides information on spare facilities, including spare facilities that are not connected to the Qwest switch.

VIII. AUDIT OF QWEST SYSTEMS

Ms. Camarota states that CLECs should be able to request an audit of Qwest's loop qualification information to ensure parity of access and information in the future.[93] The Loop Qualification Tool, Raw Loop Data Tool, and Qwest's manual loop make-up request process provide CLECs with underlying loop make-up information from Qwest's back office systems and databases that meets or exceeds the FCC standards for providing loop qualification information. Moreover, Covad agrees that the tools provide the requisite categories of information. Consequently, Qwest believes that the need for a CLEC audit of Qwest's backoffice systems goes beyond what is required or necessary for 271 approval. None of the FCC's 271 decisions has stated that permitting CLECs to audit a BOC's loop qualification data is a condition of Section 271.

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[93] Covad Affidavit of Camarota at 34.

Nevertheless, Qwest has been required by the Washington Utilities and Transportation Commission (WUTC) to modify its Washington SGAT to allow CLECs to audit the loop qualification tools at the CLEC's expense.[94] Consequently, Qwest will agree to include the audit language specified by the WUTC in the Minnesota SGAT.[95] Because Qwest's loop qualification tools and processes conform to the requirements set forth by the FCC, Qwest believes such audits would be infrequent.

IX. THIRD PARTY TEST RESULTS

KPMG conducted an independent evaluation of Qwest's loop qualification tools, which is documented in the KPMG 271 ROC OSS Final Report issued on May 28, 2002.[96] The Loop Qualification Process Evaluation, Test 12.7, was a thorough review of

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[94] *See* Exhibit BJB-LOOPQUAL-20 (Washington Commission 28th Supplemental Order Addressing Workshop 4 Issues and 31st Supplemental Order Addressing petitions for Reconsideration). The New Mexico Commission in July 2002 required Qwest to incorporate similar audit language.

[95] The SGAT language provides:

> Qwest offers five (5) Loop qualification tools: the ADSL Loop Qualification Tool, Raw Loop Data Tool, POTs Conversion to Unbundled Loop Tool, MegaBit Qualification Tool and ISDN Qualification Tool. These and any future Loop qualification tools Qwest develops will provide CLEC access to Loop qualification information in a nondiscriminatory manner and will provide CLEC the same Loop qualification information available to Qwest. *CLEC may request an audit of Qwest's company records, back office systems and databases pertaining to Loop information pursuant to Section 18 of this Agreement.*

See WA SGAT § 9.2.2.8 and Section 18 (emphasis added).

[96] *See KPMG Consulting Final Report, Qwest Communications OSS Evaluation, Version 2.0, May 28, 2002, Test 12.7, pages 120 –132*.

Qwest's DSL pre-order processes, systems and procedures used to support both Qwest Retail and Wholesale customers. In addition to evaluating process, systems and documentation, KPMG also focused on whether, "parity exists in the design, implementation and use of Qwest's loop qualification process."[97]

Using on site interviews, observations and test transactions, KPMG and HPC evaluated eleven separate criteria and determined that Qwest met all the criteria satisfactorily. Following is a chart that details the criteria KPMG used:[98]

Table I Test 12.7 – Summary Results

Evaluation Criteria – Satisfied	
12.7-1-1	The end-user information that is required prior to the submission of a loop qualification is the same for wholesale and retail orders.
12.7-1-2	The loop qualification query process is consistent for retail and wholesale customers.
12.7-1-3	Process and procedures are defined for addressing errors regarding loop qualifications in the retail and wholesale environments.
12.7-1-4	The internal process flow used for loop qualification is consistent for retail and wholesale customers.
12.7-1-5	Qwest contact information is readily available for retail and wholesale customers.
12.7-1-6	The customer receives confirmation of the completion of a loop qualification, or can access the status of loop qualifications.
12.7-1-7	Systems and processes are in place to allow wholesale and retail loop qualification queries to be performed using the customer address.
12.7-1-8	Loop qualification response types that are provided are consistent between retail and wholesale customers.
12.7-1-9	The escalation process for loop qualifications is consistent for retail and wholesale customers.
12.7-1-10	The capacity management process for loop qualification is consistent for retail and wholesale customers.
12.7-1-11	Loop qualification performance measurement processes are consistent for retail and wholesale operations.

97 *Id.* at 120.

98 *Id.* at 25.

As is evidenced by this analysis, KPMG determined that there was parity in the design, implementation and use of Qwest's loop qualification process and in the remedial options available to CLECs and to Qwest customers. The test vendors affirmed that Qwest's Retail and Wholesale customers have consistent processes for initiating, qualifying and escalating their requests for Retail, ADSL and Wholesale DSL services. In addition, KPMG determined that the loop qualification tools provided the data for Qwest DSL for Resale, Unbundled ADSL and the Raw Loop Data as described in the CLEC Job Aid.[99] The test vendors confirmed that Qwest's performance and capacity management processes are equivalent for Retail and Wholesale operations.[100] Numerous CLECs participated in the development of the ROC OSS Test criteria. Thus, CLECs had full opportunity to comment upon the scope of the KPMG Test 12.7.

X. CONCLUSION

In summary, whether a CLEC desires to resell Qwest DSL service or to provide its own flavor of DSL, my affidavit demonstrates that Qwest provides the comprehensive loop make-up information needed by CLECs. Contrary to the assertions of AT&T and Covad, Qwest is in conformance with the Act, the UNE Remand Order and the FCC section 271 Orders. As all other state Commissions to date have found, direct access to LFACS and a pre-order MLT are unnecessary because the current panoply of loop

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[99] *See* Exhibit BJB-LOOPQUAL-2.

[100] *See KPMG Consulting Final Report, Qwest Communications OSS Evaluation, Version 2.0, May 28, 2002, Test 12.7, Evaluation Criteria,* 12.7-1-1, 12.7-1-2 and 12.7-1-3, 12.7-1-4 and 12.7-1-5, p. 126 –129.

qualification tools, in conjunction with the manual loop make-up request process, provide the same underlying detail that AT&T and Covad say they require. Qwest has, during the last two years, made significant efforts to improve and enhance the loop qualification tools for the benefit of the CLEC community. For all of these reasons, the Commission should find that Qwest complies with its obligations to provide pre-order loop qualification information.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF MINNESOTA

Gregory Scott	**Chair**
Edward A. Garvey	**Commissioner**
Marshall Johnson	**Commissioner**
LeRoy Koppendrayer	**Commissioner**
Phyllis Reha	**Commissioner**

In the Matter of a Commission Investigation into Qwest's Compliance with Section 271(c)(2)(B) of the Telecommunications Act of 1996; Checklist Items 1, 2, 4, 5, 6, 11, 13 and 14	**PUC Docket No. P-421/CI-01-1371** **OAH Docket No. 7-2500-14486-2**

QWEST CORPORATION'S

EXHIBITS to the AFFIDAVIT

OF

BARBARA J. BROHL

CHECKLIST ITEM 4 – PRE-ORDER LOOP QUALIFICATION

August 2, 2002

INDEX OF EXHIBITS

Loop Qualification CLEC Notices on "Not Qualified" Response	BJB-LOOPQUAL-18
RLD Query by Address for Unbundled CLEC Loop Screen Print	BJB-LOOPQUAL-19
WUTC 28th Supp. Order; 31st Supp. Order (Selected Portions)	BJB-LOOPQUAL-20

QUALIFICATIONS OF BARBARA J. BROHL

PROFESSIONAL EXPERIENCE AND EDUCATION

My name is Barbara J. Brohl. I am a Director of Legal Issues in the IT Systems Wholesale organization at Qwest Information Technologies, Inc. ("Qwest IT"), a unit of Qwest Corporation ("Qwest"). My business address is 930 15th, 10th Floor, Denver, Colorado.

My 24-year telecommunications career began in 1976, when I was hired by U S WEST.[101] With the exception of a two-year legal clerkship completed outside of the company, I have been employed continuously by Mountain Bell and its successors, US WEST and Qwest, since 1976. In the course of my career, I have garnered extensive technical and business experience by working in different roles, including system architect, software project manager, compliance manager, contract negotiator, legal analyst, and witness. In recent years, my efforts have been focused primarily on Qwest's regulatory compliance and Third Party Testing efforts, representing Qwest at hearings and state PUC OSS Workshops. In my current role, I am also responsible for OSS testimony management and docket development, in coordination with outside counsel.

My tenure at U S WEST began in 1976, when I worked as an operator and then as a service representative. By mid-1983, I had become grounded in Information Technology at U S WEST as a programmer.

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[101] U S WEST was acquired by Qwest in June 2000.

For the nine years that followed (1983 – 92), I served as a project manager and system architect at U S WEST. In those capacities, I negotiated technical and legal issues for custom Billing and Collection contracts with large Interexchange Carriers (IXCs). I also managed large software development projects for IXC products, spanning multiple companies and multiple groups within those companies. Likewise, I developed architectural direction for a billing system replacement system.

I became a compliance manager in 1993, which position I retained for two years. As a compliance manager, I reviewed and analyzed business activities to ensure compliance with the Modification of Final Judgment (MFJ) and Open Network Architecture (ONA) interconnection requirements. Also, I provided analysis and guidance between the Legal and Information Technologies Departments, with regards to issues concerning non-disclosure agreements, licensing agreements, ongoing regulatory issues, and other legal matters. Finally, I designed, developed, and delivered training to 5,000 Information Technology / Advanced Technologies employees, with classes ranging in size from 10 to 250.

While completing my last year of law school (1994 – 95), I had an eight-month stint as a Bellcore Alliance Manager for U S WEST. In that position, I negotiated long-term asset division contracts between U S WEST and Bellcore, addressing intellectual property and technology transfer issues (e.g., pricing issues, system maintenance issues, and delivery schedules). I also researched

financial, legal, and accounting issues and prepared briefing materials for the U S WEST member of the Bellcore Board of Directors; this material was used to support Board resolution recommendations and investment analysis for legal and accounting representatives.

After earning my law degree in May 1995, I spent two years clerking for the Colorado Supreme Court before returning to U S WEST in 1997. Upon my return, I ascended to the post of Director for Legal Issues and assumed my current responsibilities.

In this post, I serve the Qwest IT organization in many capacities. I am part of the Qwest Third Party Test core team, supporting the assessment of the functionality and capacity of Qwest's Operational Support Systems (OSS) and managing vendor relationships regarding incidents identified in the tests. I recommend business requirements for Qwest OSS components, ensuring Qwest's compliance with the Telecommunications Act of 1996, associated FCC Orders, and state PUC Orders. I manage Qwest's OSS testimony and docket development for the 271 federal filing process, as well as help prepare responses to requests during discovery and testimony for state 271 filings and proceedings. I represent Qwest as an expert witness at FCC proposed rulemaking proceedings, testifying on OSS issues concerning emerging technologies, line sharing, remote collocation, and the UNE Remand. I also testify at state PUC hearings and workshops that address OSS, line sharing, Wholesale-Retail market parity, interconnection agreement arbitrations, and CLEC complaints.

Finally, I negotiate agreements with CLECs on Qwest's behalf; for instance, I negotiated the technical portion of a 14-state line sharing business-to-business agreement with more than ten Data LECs – the first agreement of its kind in the nation.

My academic credentials include a Juris Doctorate from the University of Denver College of Law. I also earned a Bachelor of Science degree from Regis University in Business and Computer Science. I received certification from the Institute for the Certification of Computing Professionals in 1990.